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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,732	03/01/2002	Takashi Kitaguchi	220147US2	8415

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EXAMINER	
ABDULSELAM, ABBAS I	

ART UNIT	PAPER NUMBER
2674	9

DATE MAILED: 05/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/085,732	Applicant(s) KITAGUCHI ET AL.	
	Examiner Abbas I Abdulselam	Art Unit 2674	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 March 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-37 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-16 and 23-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Platzker et al. (USPN 6388654) in view Hendriks (USPN 6707444).

Regarding claims 1, 23-24 and 31, Platzker teaches an image sensor (22) to capture images of a local writing surface (21) continuously into a computer (23). Platzker teaches a projector (24) projecting the computer generated computer display image onto the writing surface (21) interposed with the projected image. See col. 6, lines 35-45 and Fig. 2A. Platzker discloses a local storage device (26) in connection with the arrangement discussed above (Fig. 2A) and indicates that the steps including the projection mechanism are implemented using computer software, resident and operation in the computer device (23). See col. 5, lines 57-61, col. 6, lines 2-5 and Fig. 3. Platzker also teaches a plurality of image processing sites (A though E) interconnected by a communication infrastructure (11), which may be local area network (LAN), Internet or other types of communication channel. See col. 5, lines 17-35 and Fig. 1.

However, Platzker does not teach, projection from a rear side, and a photography part photographing an image drawn on the writing surface from the rear side. Hendriks on the other hand teaches a rear projection system including a screen 2' which is typically translucent so that light pen 4' can be tracked by the camera 8' via reflecting mirror (5), and so that the user on one side of the screen can view the images projected on the other side of the screen by the projector 6'. See Fig. 1B.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Platzker's method of processing images to adapt Hendriks's rear projection system. One would have been motivated in view of the suggestion in Hendriks that the rear projection as configured on Fig. 1B equivalently provides the desired projection and photography "from a rear side". The use of rear projection helps function an effective projector-camera arrangement taught by Hendriks.

In addition, Hendrix teaches that the images projected by the camera on the screen, representing the user's writing strokes, are derived from a display screen buffer.

Regarding claim 2, Hendriks teaches a movable infrared (IR) light emitter on a stylus located at some point in the projection plane. See col. 4, lines 23-30.

Regarding claim 3, as shown in Fig. 2A, Platzker teaches a projection surface and writing surface being one and the same. See Fig. 2A (21).

Regarding claims 4, 25 and 32, Platzker discloses that a combination resulting from local markings and projections of remote site's markings appear on the local projection surface. See col. 3, lines 18-33.

Regarding claims 5, 26 and 33, Platzker teaches as shown in Fig. 1that each site A, B and C can operate in either receive mode, transmit mode or both simultaneously. See col. 5, lines 21-26.

Regarding claim 6, Platzker discloses a calibration process with respect to an image sensor (22) and a writing surface (21). See col. 8, lines 24-42.

Regarding claim 7, Platzker teaches writing surfaces of sites A, B and C as shown in Fig. 1 as [21A] through [21C] as well as projection surface [21D] of site D and monitor [12] of sit E. See col. 6, lines 13-19 and Fig. 1.

Regarding claim 8, Platzker teaches the inputs and output of the image process including the changes in local markings and changes in projections with respect to a writing surface (21). See col. 10, lines 19-41.

Regarding claim 9, Platzker teaches a calibration algorithm that maybe implemented by projecting predetermined images that include features some which are light intensities. Platzker also teaches calculation of computational parameters with respect to the features, and further teaches technique of projected targets. It would have been obvious that the technique, the calibration of intensities and the calculation can be equivalently used to obtain the desired blocking of a light beam.

Regarding claims 10, 27-28 and 35-36, Platzker teaches the image sensor is optimally focused at each time. Platzker adds that the focusing of projections can be either performed manually to the user's satisfaction or it can be performed automatically. It would have been obvious that one can use the focusing which equivalently provides the desired "shifting of a photography area". See col. 7, lines 58-63. Platzker also teaches that production of composite

images that can be created by merging any number of input images. See col. 10, lines 67 and col. 11, lines 1-3.

Regarding claim 11, Platzker teaches that a pixel that is part of the writing in one or more input images will be assigned a non-background color, and elaborates a merging algorithm that applies to a relatively small number of pixels. See col. 11, lines 8-23.

Regarding claims 12, 15-16, 29-30, 34 and 37, Platzker teaches a computer processing the viewed image signals or "frames" representing the images appearing in the viewing field of the local image sensor indicative the markings made on the writing surface. Platzker also teaches changes are detected between successive frames that would lead to compressed representation of changes. See col. 4, lines 24-43.

Regarding claims 13-14, Hendriks teaches that the images projected by the camera on the screen, representing the user's writing strokes, and are derived from a display screen buffer. Hendriks also teaches that the contents of the display screen buffer depend on optical screen marking events such as those generated by the light-pen.

Claims 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Platzker in view of Hendriks and in further view of Dreyer et al. (USPN 5504544).

Regarding claims 17-18, Platzker as modified has been discussed above. Particularly, Hendriks teaches a bright IR source which illuminates the whiteboard. However, Platzker does not teach a lighting part illuminating the writing surface from a side as well as opposite to a side on which the photography part is provided. Dreyer on the other hand teaches that light is directed

in to illuminate one of the two sides of linear prisms before directing toward an optical window as a collimated beam.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Pulitzer's method of displaying images to adapt Dreyer's illumination technique. One would have been motivated in view of the suggestion in Dreyer that the illumination technique equivalently provides the desired illumination of the writing surface. The use of illumination with respect to linear prisms helps function a liquid crystal display device with reduced panels as taught by Dreyer.

Regarding claims 19-20, Dreyer teaches a projection system with multiple lamps and illustrates symmetric Pyrex condenser (29), which forms an elliptical shaped beam (Fig. 8). See the abstract

Regarding claims 21-22, Dreyer discloses the integration of light from multiple sources such that high chromatic dispersion of the refracting elements is taken into account. See col. 1, lines 66-70 and col. 2,lines 1-2.

Conclusion

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on

the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

4. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Abbas Abdulselam** whose telephone number is **(703) 305-8591.** The examiner can normally be reached on Monday through Friday (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard Hjerpe**, can be reached at **(703) 305-4709.**

Any response to this action should be mailed to:

Commissioner of patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314

Hand delivered responses should be brought to Crystal Park II, Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology center 2600 customer Service office whose telephone number is (703) 306-0377.

Abbas Abdulselam

Examiner

Art Unit 2674

May 6, 2004

XIAO WU
PRIMARY EXAMINER